

## 3. CICHLOSOMA, Swains., 1839.

*Cichlosoma*, Regan, Ann. Mag. Nat. Hist. (7) xvi. 1905, p. 61.

This important genus includes the American Cichlids with more than three anal spines, with all the teeth conical or cylindrical, and with the mouth not abnormally protractile. There are 68 species—53 in Mexico and Central America, 1 in Cuba, 1 in Barbados, and 13 in South America.

I have arranged the Mexican and Central-American species in five sections, which appear to be natural groups, but which are not sufficiently sharply defined to rank as subgenera.

## Section 1. THERAPS, Günth., 1862.

The teeth of the outer series in the upper jaw are in moderate number (10 to 15 on each side) and regularly increase in size anteriorly; in the lower jaw the teeth are either similar to those in the upper, or the anterior 3 to 6 on each side are enlarged, subequal and rather sharply differentiated from the smaller lateral teeth. The mouth is small or of moderate width, the maxillary never extending beyond the vertical from the anterior margin of eye; the cleft of the mouth is nearly horizontal and entirely below the level of the eye, the præorbital being deep; the jaws are equal anteriorly or the lower is somewhat the shorter; in the adult fish the præmaxillary spines do not extend to above the orbit. The upper profile of the snout is usually slightly convex, and except in two species (*C. microphthalmus* and *C. godmani*) the fold of the lower lip is not continuous. The dorsal fin has XV–XIX 10–15 rays and is more or less scaly at the base posteriorly; the anal has IV–VIII 7–12 rays; the pectoral is usually rather short and only in one species (*C. nicaraguense*) does it extend beyond the origin of the anal; the caudal is either rounded, truncate, or emarginate with rounded lobes.

This group consists of twenty species from Mexico and Central America, one extending into Colombia.

*Heros deppii*, Heckel, and *Cichlosoma zonatum*, Meek, are insufficiently described species, apparently belonging to this section.

*Synopsis of the Species.*

## I. Pectoral not extending to above the anal, which has 4 to 7 spines.

## A. Caudal rounded or truncate.

1. Depth of body  $1\frac{2}{3}$  to  $2\frac{5}{8}$  in the length.a. Last dorsal spine  $\frac{3}{8}$  to  $\frac{3}{5}$  the length of head.

$\alpha$ . Lower jaw a little shorter than the upper; depth of body  $2\frac{1}{4}$  to  $2\frac{2}{3}$  in the length; caudal peduncle nearly as long as or longer than deep. D. XVII–XVIII 12–15.

A. V–VI 8–10.

Length of head  $3\frac{1}{4}$  to  $3\frac{1}{2}$  in the length of the fish . . . . . 1. *eigenmanni*.

Length of head  $3\frac{2}{3}$  to 4 in the length of the fish . . . . . 2. *nebuliferum*.

 $\beta$ . Jaws equal anteriorly.

\* Caudal peduncle  $\frac{1}{2}$  to  $\frac{3}{4}$  as long as deep.

† D. XVI–XVII 12–14. A. VI–VII 9–10. A large dark blotch on the caudal peduncle. Depth of body  $1\frac{2}{3}$  to 2 in the length . . . . . 3. *maculicauda*.